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Leader–member exchange (LMX) differentiation and work outcomes: Conceptual clarification and critical review

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Summary

According to leader–member exchange (LMX) theory, leaders develop different quality relationships with followers in their team (termed LMX differentiation). An important theoretical question concerns how different LMX relationships within a team affect followers' work outcomes. This paper provides a critical review of the concept of LMX differentiation. We propose that the LMX differentiation process leads to patterns of LMX relationships that can be captured by 3 properties (central tendency, variation, and relative position). We describe a taxonomy illustrating the different ways these properties have been conceptualized and measured. We identify 2 approaches to LMX differentiation as being a "perspective of the team" (that are shared perceptions amongst team members) or a "perspective of the follower" (subjective perceptions unique to each follower). These perspectives lead to different types of measures that predict different outcomes at the individual and team levels. We describe theoretical models employed to explain the effects of LMX differentiation (justice, social comparison, and social identity theories). Generally, the lower the within-team variation in LMX or the more a team member's LMX is higher than the mean team LMX, the better are the work outcomes, but many moderators condition these effects. Finally, we identify some key areas for future research.

KEYWORDS

leadership, LMX, LMX differentiation

1 | INTRODUCTION

A popular framework to examine workplace leadership is to focus on the quality of the relationship that exists between the leader and his/her follower (termed leader–member exchange [LMX] theory; Yammarino, Dionne, Chun, & Dansereau, 2005). The central tenet of LMX theory is that, through engaging in different types of social exchanges, leaders differentiate in the way they treat their followers leading to different quality relationships between the leader and each follower (Dansereau, Graen, & Haga, 1975; Graen & Cashman, 1975). This approach contrasts with the hitherto dominant perspective that leaders treat all their followers in the same way (termed "average leadership style" approach). In LMX theory, the leader–follower relationship is the central unit of analysis rather than leader or follower traits, styles or behaviors as is the case in other leadership theories. From this perspective, leadership has been viewed as a two-way relationship between a leader and a follower aimed primarily at attaining mutual goals (e.g., Graen & Uhl-Bien, 1995; Liden, Sparrowe, & Wayne, 1997). The result is relationships that can range from low LMX quality, which are limited to exchanges that relate to the employment contract and are mainly task-orientated in nature, to high LMX quality, which are characterized by high trust, interaction, support, and rewards, resulting in employees and supervisors being loyal to one another and sharing mutual feelings of liking and respect (Graen & Uhl-Bien, 1995; Liden & Graen, 1980).

There has been a considerable amount of research into LMX (see Bauer & Erdogan, 2015), and this has provided a comprehensive understanding of the antecedents, the stages of development, the relationship with work-related attitudes and behaviors, and factors that mediate and moderate this process (for reviews, see Anand, Hu, Liden, & Vidyarthi, 2011; Martin, Epitropaki, Thomas, & Topakas, 2010; Schriesheim, Castro, & Cogliser, 1999). Meta-analyses of the literature show consistent positive relationships between LMX quality and

follower reactions (such as job satisfaction and organizational citizenship behavior; e.g., Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012: Gerstner & Day, 1997; Ilies, Nahrgang, & Morgeson, 2007) and work performance (such as task and citizenship, and negative relationship with counter-productive performance; e.g., Martin, Guillaume, Thomas, Lee, & Epitropaki, 2016). In addition, considerable consistency in findings, across different demographic factors, job types and countries, showing a positive relation between LMX quality and work outcomes have been found (Martin et al., 2010).

Although LMX theory is essentially dyadic in nature (i.e., leader–follower dyads), there has been a refocusing of research to address group-level phenomena (Graen & Uhl-Bien, 1995; Thomas, Martin, Epitropaki, Guillaume, & Lee, 2013a; Thomas, Martin, & Riggio, 2013b; Tse & Ashkanasy, 2015). This acknowledges that leaders manage many followers and that each leader–follower dyadic relationship occurs within the context of multiple LMX relationships. Given that leaders reliably differentiate between team members, this makes this concept a concern for both practical and theoretical reasons. If leaders have different LMX relationships with team members, then the relation between LMX on work outcomes might be based not only on the quality of the relationship with the manager but also on the quality of the relationships the manager has with other members of the work team. The way in which managers develop different LMX relationships with team members has been referred to as the *LMX differentiation* process, and this results in specific patterns of LMX within the team (e.g., from being all the same quality to being different in quality).

The examination of LMX differentiation is currently a major focus of LMX research, and our search of the literature shows that the number of papers dedicated to this topic is growing rapidly. In this review, we are less concerned with why LMX differentiation occurs (see Henderson, Liden, Glibkowski, & Chaudhry, 2009) but with the consequences of this process to team members. With respect to this, we find the literature to be often inconclusive with regard to some key findings and somewhat disjointed. For example, some studies show the extent that there are different levels of LMX in the team explains additional variance in outcomes (such as turnover intentions) above that of LMX alone (e.g., Harris, Li, & Kirkman, 2014), but other studies do not find this (e.g., on organizational commitment and satisfaction with coworkers; Erdogan & Bauer, 2010). In addition, although LMX variation often has a negative impact on work outcomes (e.g., Cobb & Lau, 2015), other studies show that it has no impact (e.g., Chen, Yu, & Son, 2014) while others found a positive relationship (e.g., on helping behaviors; Erdogan & Bauer, 2010). Such inconsistent findings might indicate that there are moderators that might explain when LMX variation has an impact upon outcomes.

Although recent research elucidates some of the mechanisms and boundary conditions of these inconsistent effects, gaps still prevail. We attribute some of these inconsistencies to issues that are both theoretical and methodological in nature. Specifically, there exists a tendency for authors to conceptualize LMX differentiation from alternative perspectives resulting in the use of a variety of different measures that aim to capture similar constructs. As such, the LMX differentiation literature currently lacks structure and clarity. Further, there is not a direct measure of the LMX differentiation process itself (i.e., the way the leader develops different quality relationships), instead, studies capture the *outcome* of the process referred to as different "properties" in this review.

Given the theoretical importance of LMX differentiation to LMX theory and the significant increase in focus on this topic, we believe that a critical review of the area is warranted. There are many important theoretical implications of research into LMX differentiation, and the interplay between the individual (LMX) and team (LMX differentiation) levels potentially provides a more complete explanation of outcomes than focusing on one level alone (Liden, Erdogan, Wayne, & Sparrowe, 2006). Our aim is to provide a critical analysis of the concept in terms of conceptualization, measurement, and theoretical understanding and not a systematic review of the literature (for this, see Anand, Vidyarthi, & Park, 2015) nor why and how differentiation occurs. The intention of this review is to offer a number of contributions to the literature, and we have organized these into four sections. In the first section, we define and explain LMX differentiation as a process and delineate the main properties of this process. For the first time, we describe and define the main properties of the LMX differentiation process and in so doing identify new properties that have received virtually no research attention. We report a taxonomy to categorize the different measures of LMX differentiation to offer some clarity regarding the differing perspectives currently adopted in the literature and how they configure together. The second section describes the main theoretical approaches to explain how the properties of LMX differentiation predict outcomes. In doing this, we review the main findings linking properties of the LMX differentiation process to work-related variables. The third section identifies some key areas for future research in terms of methodological refinements and advancing theoretical understanding of the LMX differentiation process. Finally, we summarize the main contributions of the paper.

2 | LMX DIFFERENTIATION: DEFINITION, PROPERTIES, AND MEASUREMENT

This section defines the LMX differentiation process, describes the most salient properties of the outcome of the differentiation process and reviews, and evaluates measurement techniques.

2.1 | LMX differentiation definition

The way that leaders develop different quality relationships with members of their team has been referred to as the *LMX differentiation* process. LMX differentiation is defined as

> *… a process by which a leader, through engaging in differing types of exchange patterns with subordinates, forms different quality exchange relationships (ranging from low to high) with them. As such, LMX differentiation refers to a set and outcome of dynamic and interactive exchanges that occur between leaders and members, the nature of which … may differ across dyads within a work group (Henderson et al., 2009; p. 519).*

LMX differentiation does not refer to the mean LMX quality in the team, but to the extent that there are differences in LMX quality within the team (for a review, see Anand et al., 2015).

2.2 | LMX differentiation properties

Although LMX differentiation refers to the *process* by which leaders develop different quality relationships with each team member, the results of that process will be differentiation patterns of LMX quality between team members. Three main *properties* of the differentiation process pattern can be identified and assessed (central tendency, variation, and relative position), and these are described below.

The first property of the differentiation process concerns the within-team *central tendency* (i.e., central or typical value of a distribution), which is normally assessed as the team mean or median score. Although most research has examined the mean, some argue that the median is a better indicator of aggregation because it represents the middle person in the team while the mean might not correspond to any team member (e.g., Liden et al., 2006). The central tendency simply describes the average or middle LMX quality within the team and, in itself, is not of direct interest in understanding the relation between the LMX differentiation process and outcomes. However, the team mean LMX quality can have a direct effect on measures of LMX differentiation. For example, if team mean LMX quality is at the scale minimum or maximum (indicating no within-team variance), then there will be no LMX differentiation. If team mean LMX quality is at a moderate scale level, then there may be a relation between this and measures of LMX differentiation. For example, different teams might have the same team mean LMX quality but have different levels of variation around the mean. Due to these considerations, team mean LMX quality is an important property as it informs where on the LMX quality continuum (low vs. high) the team is located and therefore it is often employed as a control variable or as a moderator in assessing the outcomes of the LMX differentiation process (e.g., Gooty & Yammarino, 2016).

The second property of the differentiation process concerns the within-team dispersion or *variation* in team members' LMX quality (*LMX variation*, i.e., the degree of variation in team members' LMX quality). It should be noted that this is often termed "LMX differentiation" in the literature. However, we have made a distinction between LMX differentiation as the *process* by which leaders develop different LMX quality with team members and LMX variation as a *property* or outcome of the differentiation process (Hooper & Martin, 2008). There are two dimensions to LMX variation: *dispersion* (i.e., the amount of spread of LMX between team members) and *distribution shape* (i.e., the pattern of LMX within the team). However, we are aware of only one study that has examined the distribution shape of within-team LMX quality (Li & Liao, 2014), and therefore, we will return to this important property in Section 4. For ease of presentation, for rest of the review, we use the term LMX variation to refer to the dispersion aspect of this property.

Measures of LMX variation require summarizing individual-level data (i.e., from individual team members) to unit-level constructs (i.e., work team) and how this is done reflects the assumptions that are made about the relation between lower and high order constructs (in this case, individual LMX quality and team-level LMX quality). There are different types of compositional models that can be employed to aggregate the data (Chan, 1998; Kozlowski & Klein, 2000). Compositional models are examined when "… the higher level construct is of a collective or aggregate nature and is construed as some form of combination of the lower level units" (p. 235). Chan (1998) describes five compositional models that make different assumptions about the relation between lower and higher order constructs and therefore how they should be aggregated, and these can be applied to understanding the different ways LMX variation can be computed (see Table 1). We briefly describe each of these below.

Additive models are ones where there is a close functional relationship between concepts at different levels so that lower level units can be summed to represent higher order units. In the context of LMX variation, this would be represented by combining individual team members' LMX to calculate team mean LMX quality. These computational models produce within-team central tendencies (the first property described above) that ignore the focal aspect of concern in this paper (i.e., variation). *Direct consensus* models are based on using within-team consensus of lower level units as a way to operationalize higher order units. These models have been popular within organizational behavior research (e.g., studies that have conceptualized individual-level perceptions of climate as related to organizational climate; Klein, Conn, Smith, & Sorra, 2001). The focus is to examine similarity in perception of the focal construct rather than the absolute level. Applying this to LMX variation, such models would calculate within-team agreement to survey items that ask to rate the quality of the relationship the team member has with the leader (e.g., using r_{wg}, Wikaningrum, 2007). Although within-team agreement is desirable in many fields of research (to justify aggregation of data), it is less so in areas, such as LMX variation, where the degree of variation in lower level units is the main focus of enquiry. *Referent-shift consensus* models are similar to direct consensus models except that the referent person for the evaluation changes (or shifts) levels of analysis from the individual to unit level (see, e.g., research examining perceived team self-efficacy, e.g., Prussia & Kinicki, 1996). With respect to LMX variation, instead of team members rating the quality of their relationship with the leader, the referent becomes the team and therefore team members judge the relationship of all team members with the leader. Data are then combined in the same way as for direct consensus models. To the best of our knowledge, we are not aware of any LMX research utilizing this type of model but believe that such research could address some interesting research questions. *Dispersion* models provide a potentially more relevant way to operationalize LMX variation than the previous models as they focus on the degree of variation of the focal construct at the individual level to conceptualize the concept at the unit level. Examples of dispersion models in organizational behavior research include studies examining perceptions of climate strength (e.g., Schneider, Salvaggio, & Subirats, 2002). Applying this to LMX variation research would lead to measures of within-team dispersion of individual LMX quality scores (such as standard deviation, Boies & Howell, 2006) as indices of variation. Indeed, this type of compositional model is by far the most frequently employed in LMX variation research. Finally, *process* models differ from the preceding four models because they do not rely upon static constructs (such as perception of LMX quality) but on processes that change from lower to higher level constructs. In the context of LMX variation, researchers might be interested in how teams come to agree on the degree of variation in their team. One could analyze individual-level LMX quality and then specify the processes that individual team members combine their perceptions of LMX quality to form a team-level construct. We are not aware of any equivalent measures in LMX variation research.

The third property of the LMX differentiation process refers to the within-team *relative position* or location of each team member's LMX

TABLE 1 Application of compositional models to LMX variation operationalization and measurement

Compositional model	Operationalization	Application to LMX variation	Example of measure
Additive	Team construct is summation of individual level variables	The summation of individual LMX scores for all team members	Mean or median
Direct consensus	Team construct is consensus amongst individual-level variables	The amount of within-team agreement of individual LMX scores	Rwg
Referent shift consensus	Team construct is consensus of individual-level variables that refers to team-level constructs	The amount of within-team agreement of individual LMX scores where the referent is not individual but team (e.g., quality of relationship leader has with whole team)	Rwg
Dispersion	Team construct is the variance of individual-level variables	The amount of within-team variation in individual LMX scores	Standard deviation
Process	Team construct processes parameters are analogous to individual level parameters	Not applied to LMX variation	

Note. LMX = leader–member exchange.

quality with respect to other members of the team who are managed by the same leader (*LMX relative position*, i.e., the relative standing of a team member's LMX compared to other team members). Relative position can be assessed on a number of comparative or relative dimensions (e.g., whether team members believe their LMX quality is "better than" vs. "worse than," or "above average" vs. "below average" other team members). For example, some team members might consider themselves to have a better LMX quality with the leader compared to other team members. Whatever relative dimension is considered, or methodologically employed, the net result is the ordering of team members' LMX quality on an evaluative/comparative dimension. There is clearly a relation between relative position and LMX variation. The greater the variation in LMX quality, the greater will be the range of relative positions. Put another way, if there is no variation in LMX quality (i.e., all team members have the same LMX), then there can be no variation in absolute relative position.

It is important to consider the different properties described above to better understand the impact of the LMX differentiation process on work-related outcomes. The general benefits that LMX quality has on outcomes might be based not only on the quality of the relationship a person has with his or her manager (LMX quality) but also, to some extent, on the variation and distribution shape of LMX quality within the team (LMX variation and shape) and how each person's LMX compares or relates to other team members (LMX relative position).

2.3 | LMX differentiation measurement

The LMX differentiation process creates teams with specific patterns of LMX qualities. We have described the main properties of the LMX distribution, and in this section, we describe some of the main ways researchers have tried to measure these properties. It should be noted that no one measure alone can fully capture the LMX differentiation process. Researchers have employed many different ways to assess the two main properties of the LMX differentiation process described above (i.e., LMX variation and LMX relative position). As will become clear in later parts of this review, the different types of measures reflect different perspectives and, due to this, we have developed a taxonomy of the different LMX differentiation measures in order to provide better clarity of the literature.

The taxonomy is based on two dimensions. The first dimension, as described above, concerns the property or outcome of the LMX differentiation process (i.e., LMX variation or LMX relative position). The second dimension concerns the source of the measure in terms of whether it is obtained from individual team members (i.e., individual source) or from a number of team members who have the same leader (i.e., multisource). One implication concerning the source of the measurement is the level of analysis of the data. Individual source data provide estimates at the individual level (with each team member having unique estimates), and multisource data provide estimates at the team level (with a team estimate applied to each team member). Within the individual-source dimension, it is possible to identify an additional subdimension that concerns whether an individual estimates the property entirely (i.e., direct measurement) or it is calculated, and therefore inferred, from an individual's estimates (i.e., indirect measurement). The distinction between direct and indirect measurement is common within the organizational behavior literature (e.g., research on actual vs. perceived group diversity, Harrison, Price, Gavin, & Florey, 2002; Shemla, Meyer, Greer, & Jehn, 2016). All multisource data, due to its nature, are indirect with estimates of LMX differentiation properties being calculated or inferred from individual estimates.

Therefore, for the two LMX differentiation properties (variation and relative position), there are three measurement categories (individual source/direct, individual source/indirect, and multisource). Below, we describe examples of measures that fall within each of the different categories discussed above (shown in Table 2). It is worth noting that most of these measures have not been employed often and many are one-off measures designed by the study authors, which contribute to the lack of clarity that typifies the domain with regard to the best way to capture LMX differentiation. In the relevant sections, we identify the most commonly employed measures.

2.3.1 | LMX variation measures

The aim of these measures is to capture the degree of dispersion of LMX scores within the team. For the individual-source measures (i.e., from one team member), there are examples of both direct and indirect measures. Examples of direct measures include judgments of the extent the leader treats team members differently, e.g., on social/task dimensions (Van Breukelen, Van Der Leeden, Wesselius, & Hoes,

TABLE 2 Examples of measures of LMX variation and LMX relative standing

	Individual source		Multisource
	Direct	Indirect	Indirect
LMX variation	Perceived differential treatment within team (perception leader treats team members differently: e.g., on social/task dimensions, Van Breukelen, Van Der Leeden, Wesselius, & Hoes, 2012; or friendliness and feedback, Van Breukelen, Konst, & Van Der Vlist, 2002)	LMX range (a team member's estimate of best and worst LMX person: e.g., Baker & Omilion-Hodges, 2013) LMX variability (variance in a team member's estimates of number of team members having good and poor LMX: e.g., Hooper & Martin, 2008) LMX differentiation (categorization of a team member's descriptions of LMX in team: e.g., Bakar, Halim, Mustaffa, & Mohamad, 2016)	Within-group consistency (e.g., Rwg, Wikaningrum, 2007) Within-group standard deviation (e.g., Boies & Howell, 2006) Within-group variance (e.g., Erdogan & Bauer, 2010) Coefficient of variation (team LMX SD/LMX mean: e.g., Han & Bai, 2014) Absolute differences (sum of absolute difference between each team member's LMX and team mean LMX: e.g., McClane, 1991; Tordera & González-Romá, 2013)
LMX relative position	LMXSC (evaluation of LMX as better than others in team: e.g., Vidyarthi, Liden, Anand, Erdogan, & Ghosh, 2010) LMX comparison (evaluation of LMX as above or below average for team: e.g., Martin, Dello Russo, Legood, & Thomas, 2015)	Own-other difference (difference between own LMX and judgment of best and worst LMX in team: Baker & Omilion-Hodges, 2013)	Relative LMX (individual LMX minus team mean LMX: e.g., Henderson, Wayne, Bommer, Shore, & Tetrick, 2008) Relative separation (square root of summed squared differences between individual's LMX and other individual's LMX divided by number in team: e.g., LMXRS, Harris, Li, & Kirkman, 2014)

Note. LMX = leader–member exchange.

2012) or friendliness and feedback (Van Breukelen, Konst, & Van Der Vlist, 2002). These measures provide subjective perceptions of the amount of LMX variation within the team. Examples of indirect measures include a technique, originally developed by Hooper and Martin (2008), that asks team members to indicate the number of people in their team (including themselves) that have different quality relationships with the leader (from very poor to very good). From this data, estimates of within team variance can be calculated. Although the data are collected from one individual, this is an indirect measure as the degree of variability is inferred from calculating the within-team variation of LMX scores.

Multisource measures (i.e., from more than one team member) are the most popular measures and account for approximately 80% of measures of LMX variation. These measures are indirect in nature and involve various ways to combine individual team members' judgments of LMX to reflect team-level variation (and in nearly all cases, they represent the dispersion compositional model described above). Examples of these techniques include calculations of dispersion such as standard deviation (e.g., Boies & Howell, 2006), variance (e.g., Erdogan & Bauer, 2010), and absolute difference scores (e.g., McClane, 1991). The higher the score, the greater is the within-team variation in team members' LMX.

2.3.2 | LMX relative position measures

The aim of these measures is to assess the position of each team member's LMX in relation to that of other team members. There are a number of individual source measures, and nearly all of these are direct in nature. An example of this is the LMX social comparison measure (LMXSC), which is a six-item measure developed by Vidyarthi, Liden, Anand, Erdogan, and Ghosh (2010). The items ask respondents to indicate how their manager treats them (e.g., supportively, loyally, enjoying their company) compared to other members of the work team. Higher scores would imply that the leader treats the respondent better than s/he treats other team members. Another direct measure involves asking respondents to compare the quality of the relationship they have with their manager with other team members, for example, on a scale from "*below average*" to "*above average*" (Martin et al., 2015). This measure directly asks individuals to assess their relative position within the work team as being above or below the "*average*" LMX in the team. The only indirect measure we could identify is reported by Baker and Omilion-Hodges (2013) who computed the difference between a team member's assessment of their own LMX and their judgment for the team member who they believed had the best or worst LMX in the team.

For multisource measures, there are a number of examples and these are all indirect in nature. The most frequently used is relative LMX (RLMX, e.g., Henderson et al., 2008) or sometimes referred to as "deviation scores" (e.g., Ferris, 1985), which is the team member's LMX quality minus the team mean LMX quality. High RLMX equates to team member's LMX quality being higher than the average LMX quality for their work team. The RLMX measure is by far the most popular way to examine relative position accounting for over 70% of all measures for this property. Another example is LMXRS (e.g., Harris et al., 2014), which is the square root of summed differences between team member's LMX quality and other team member's LMX quality divided by number of respondents. As for RLMX, the higher the LMXRS, the better the individual's standing in the team with respect to LMX quality.

2.4 | Critical considerations on measurements

In evaluating the measures, we identify two perspectives to the LMX differentiation process that affect the theoretical conceptualization and operationalization (i.e., measurement) of its properties and the interpretation of the research findings. We describe each of these below.

The first perspective views the outcomes of LMX differentiation as a result of the way leaders develop different LMX relationships with

team members and are therefore a *perspective of the work team*. In this perspective, the properties of LMX differentiation are conceptualized, and measured, from an analysis of all team members' LMX quality. Therefore, this perspective leads to the use of mainly multisource and indirect measures. For example, measures of LMX variation are based on combining team members' LMX quality (e.g., within-team standard deviation of team members' LMX quality, Boies & Howell, 2006) and LMX relative position from comparing individual LMX quality with the team mean LMX quality (e.g., RLMX, Henderson et al., 2008). In both cases, there is an assumption that the outcome of the LMX differentiation process is shared by team members at the team (e.g., by applying within-team variances to all team members) and individual (e.g., by calculating RLMX using the within-team average for all team members) levels.

The second perspective to examine the LMX differentiation process focuses on the follower's perceptions of their and other team members' LMX quality. The LMX differentiation process is not seen as a shared property of the team but as a lens through which followers interpret their relationship with their leader and other leader-follower's relationships within the team and therefore is a *perspective of the follower*. In this perspective, the properties of the LMX differentiation process are conceptualized, and measured, as unique subjective perceptions for each team member and, to reflect this, employ mainly individual source and direct measures. A crucial distinction between this perspective and the former one is the concept of the "team." The perspective of the team approach assumes that team membership is shared and agreed by all team members. However, from the perspective of the follower approach, the team is a subjective representation for each team member and therefore can contain different team members for each person. Measures based on this approach are subjective perceptions such as degree of LMX variation (e.g., evaluations of the way the leader treats all team members, Van Breukelen et al., 2002) and relative position or standing of their own LMX quality compared to others in the team (e.g., LMXSC, Vidyarthi et al., 2010).

We now focus on some conceptual problems of these perspectives that affect measuring the properties of LMX differentiation. One consequence of the perspective of the team approach is the requirement that data are needed from all team members in order to obtain reliable estimates (e.g., to have reliable indices of within-team variance). However, LMX variation indices are often calculated on incomplete teams, with varying and nonrepresentative response rates (e.g., Liden et al., 2006, report a response rate of 60% implying that incomplete teams were represented). If full team data are not collected, then these measures do not reflect the team but only those that completed the survey and these may not be representative of the whole team (Rogelberg et al., 2003). Even if data are collected from all team members, it does not negate another potentially more important concern that team membership is socially constructed and that the boundaries between who is "in" and who is "not in" the work team probably varies between team members (and indeed as a function of LMX quality itself). Even in teams that are numerically small and have well defined boundaries, there is often disagreement about team membership. Consider the example of a manager of 12 individuals who are located in three subteams of four team members each. At what level will each team member construe their work team? Would it be at the subgroup level (i.e., 4) or manager level (i.e., 12)? If one assumes that perceptions of team membership are not shared by all team members, then this has important implications for studies that use these types of measures.

As noted above, we propose that each of these perspectives address important, but different, research questions. Focusing on the LMX differentiation process as a perspective of the team makes assumptions about team membership and shared perceptions, which themselves can be legitimate research questions. One advantage of this perspective is that it allows for examination of the effects of LMX differentiation process at both the individual and team levels and for cross-level hypotheses (e.g., Henderson et al., 2008). In addition, this perspective is essentially leader centric, as it reflects the result of the leader's differentiation process, and therefore, the properties of differentiation might be reliable predictors of the leader's perceptions of LMX differentiation and his/her work-related attitudes and behaviors. By contrast, focusing on the follower's perception of the LMX differentiation process leads to mainly individual-level hypothesis testing. With respect to this, we would argue that because this perspective taps into individual subjective judgments of LMX differentiation, then, they are likely to be a better predictor of individual-level outcomes than the alternative perspective (Martin et al., 2015; Thomas et al., 2013a).

3 | THEORETICAL APPROACHES AND EMPIRICAL FINDINGS

As a theory, LMX is located at the dyadic level making specific hypotheses concerning how relationship quality with the leader enhances follower well-being and performance. A range of potential mediating variables have been proposed that reflect different theoretical orientations such as role clarity, trust, job satisfaction, organizational commitment, motivation, and empowerment (see Martin et al., 2016). Although LMX theory can help elaborate on certain outcomes through the consideration of theoretically guided mediators, in its original form, it is unable to explain the effects of LMX variation and LMX relative position on outcomes. To be able to explain the effects of LMX differentiation, LMX theory would need to acknowledge that each follower's focus is not just on the quality of the relationship they have with their manager but also the quality of the relationship the manager has with other followers in their team. Since the level of analysis of LMX theory is at the dyadic level (leader–follower), the basic theory is not suitable for extrapolation to the team level (leader-multiple followers). A strict interpretation of LMX theory would suggest that the pattern of LMX relationships within a team should have no, or minimal impact, on the individual LMX to outcomes relationship.

Nonetheless, there are good theoretical arguments for the inevitability of high levels of LMX variation (Hooper & Martin, 2008) and therefore LMX relative position, due to limitations in leaders' resources and time (for reviews see Graen & Uhl-Bien, 1995; Henderson et al., 2009). Indeed, research has shown that the majority of managers have different quality relationships with members of their team (Liden & Graen, 1980). In their review of the literature pertaining to Stage 2 of LMX theory development, Graen and Uhl-Bien (1995) concluded

that, in general, only high LMX quality relationships were exclusively beneficial for leader, follower, team, and organizational outcomes, and by implication, effective leadership necessitates low levels of LMX variation (Graen, Hui, & Taylor, 2004). On the other hand, there are competing arguments in favor of high LMX variation. Team members vary in terms of their ability, skills, and motivation to effectively perform the more challenging aspects of their roles; thus differentiation may allow a more optimal fit between followers' capability and their work assignments culminating in better individual and team performance (Dansereau, Yammarino, & Markham, 1995; Sparrowe & Liden, 1997). Thus, although

> *Differentiation may represent a means for best utilizing varying knowledge, skills, and abilities of members. On the other hand, differentiation may lead to perceptions of unfairness … or unhealthy factions of members which result in lowered group cohesiveness and productivity (Liden et al., 1997, p. 73).*

These competing perspectives suggest a complex, almost paradoxical, relationship between LMX differentiation and individual and team outcomes (Zhang, Waldman, Han, & Li, 2015).

The research, in fact, alludes to the complexity described above by showing inconsistent relationships between LMX variation and performance. Although some studies show a positive relation between LMX variation and performance controlling for individual LMX (e.g., Naidoo, Scherbaum, Goldstein, & Graen, 2011), others do not (Liden et al., 2006). A study by Le Blanc and González-Romá (2012) also reports a positive relationship between LMX variation and team commitment and team performance, however only when the team median of LMX quality was low. Negative, albeit weak, correlations have been found between LMX variation and a number of attitudinal outcomes such as job satisfaction (e.g., Erdogan & Bauer, 2010) and affective commitment (e.g., Schyns, 2006). We note that although LMX variation is typically measured indirectly with multisource data, the above attitudes were measured at the individual level. Some authors have aggregated individual attitudes to the team level, but this might be masking important cross-level relationships (e.g., Schyns, 2006).

Taken together, these findings suggest a complex relationship between LMX variation and individual and team outcomes involving countervailing forces that need to be integrated with other theoretical frameworks in order to be explained. In this section, we briefly review three main theories that have been employed (often in conjunction with LMX theory) to make predictions about LMX differentiation (LMX variation and LMX relative standing), namely, organizational justice, social comparison, and social identity theories.

3.1 | Organizational justice theory

Organizational justice theory is often utilized when looking to examine team processes related to LMX differentiation. In essence, there are two fundamental principles of organizational justice—equity and equality (Deutsch, 1975; Greenberg, 1990). The equity principle states that individuals seek to maintain the proportionality of input to outcomes in relation to comparable others, whereas the equality principle maintains that outcomes and rewards should be equally distributed across all team members irrespective of relative inputs (Adams, 1965). Both justice principles are germane to LMX variability and LMX relative position and, as such, add explanatory power over and above LMX theory. Put simply, the equity principle would predict that high RLMX leads to better individual-level consequences, and the equality principle would predict that low LMX variation is associated with better outcomes at the team level. However, following an equity principle could also lead to better outcomes at the team level insofar as members share and consider valid the adoption of that principle in their given context. Below, we briefly describe research relevant to each of these predictions.

3.1.1 | LMX variation

Low LMX variation involves equal treatment of followers, which could occur regardless of relative contribution, and thus fulfils the norm of equality and contravenes the norm of equity. Empirical studies examining both cognitive and affective group states (e.g., Chen, He, & Weng, 2015; Cobb & Lau, 2015; Li & Liao, 2014) have reported moderate negative correlations between LMX variation and processes such as group cohesion, group proactivity, coordination, and communication. A particularly noteworthy study is that of Li and Liao (2014) which was longitudinal in design and collected objective outcomes of performance (reported as team profit). The authors found an overall negative relationship between LMX variation and team profit that was mediated by team coordination. Essentially, LMX variation was found to disrupt team coordination, which, in turn, had negative consequences for performance. On the other hand, operationalizing LMX variation using a multisource indirect measure (R_{wg} index), Boies and Howell (2006) found that LMX variability may even be associated with greater team potency and lower team conflict if the overall team mean LMX is high.

Team conflict (both relational and task) has also been investigated as a key team process (i.e., Boies & Howell, 2006; Chen et al., 2015; Cobb & Lau, 2015; Hooper & Martin, 2008). Overall, the greater the LMX variation, the higher was the team conflict. Such a notion is supported by a recent study by Zhou and Shi (2014) which found that high LMX variation was associated with increased relationship conflict. Cobb and Lau (2015) also found that LMX variation had a negative effect on team conflict. On the other hand, high LMX variation might be seen to fulfil the norm of equity (if based on different inputs) but clearly violates the norm of equality. In the context of work teams, this can be particularly problematic as there is often an assumption that leaders need to treat team members the same to be seen as procedurally fair (Leventhal, 1980). When leaders are seen to treat members differently (leading to high LMX variation), they can be seen to be procedurally unfair (Scandura, 1999) and this can lead to deterioration in team processes and worse work outcomes (e.g., Hooper & Martin, 2008). Relevant to this point, all three dimensions of justice have been empirically examined in the literature. In the above-cited study, Cobb and Lau (2015) reported a negative relation between LMX variation (operationalized as within-team standard deviation) and climate for justice (distributive, procedural, and interactional). Of particular interest was that LMX variation had a negative effect on climate strength, meaning it reduced the consistency of justice perceptions (more than the level or average climate perceptions). Examining both justice and

conflict, Chen et al. (2015) found that LMX differentiation was more harmful when the grounds for differentiating amongst team members were not considered "fair" (i.e., team members' task performance was not the main basis for leaders' differentiation processes).

Another important issue to consider is that the effects of LMX variation might be explained by cross-level and multilevel effects (i.e., between the team level represented by LMX variation and the individual level represented by members' attitudes and behaviors). Erdogan and Bauer (2010), for example, reported multilevel moderation wherein the effects of LMX variation on individual commitment, satisfaction with coworkers, organizational citizenship behavior (OCB), and withdrawal behaviors were moderated (and in instances completely reversed) by distributive and procedural justice climate. The best outcomes were observed in conditions of high LMX variation and high justice climate but, in contrast, conditions of low distributive and procedural justice climate turned the impact of high LMX variation on individual behaviors severely negative. Similarly, Haynie, Cullen, Lester, Winter, and Svyantek (2014) found that low versus high distributive justice climate completely reversed the impact of LMX variation on employee task performance (i.e., reporting an "x" effect of the interaction term). This finding, in particular, highlights that as long as the implemented procedures are perceived as fair, high LMX variation can lead to positive consequences, which suggests it may well serve the equity principle. Finally, Han and Bai (2014) reported that high LMX variation was associated with lower individual perceptions of distributive and interactional justice. Further, in the case of interactional justice, the relationship was moderated by task interdependence such that it was more negative for teams with high interdependence.

Finally, it is worth noting that LMX variation is often conceptualized as a moderator rather than the independent variable. Kauppila (2015) report that LMX variation reduces the relationship between individual LMX quality and OCB. Similarly, Harris et al. (2014) found that in groups with low LMX variation (measured as within-team variance), individual LMX quality was more strongly related to OCB (positively) and turnover intent (negatively). Having the opposite effect, the more variation present within a team was found to strengthen the positive relationship between LMX quality and employee subjective performance (Ma & Qu, 2010). An interesting study by Epitropaki et al. (2016) found, utilizing cross-level analyses, that LMX variation (with the individual source/indirect Hooper & Martin, 2008, measure) accentuates the positive relationship between political skill and RLMX. Such a finding would suggest that in competitive environments, political skill is a key asset so to ensure a strong position within the team with reference to LMX quality. Such examples typify the tendency for studies to report opposing results, thus contributing to an inconsistent picture with regard to findings.

3.1.2 | LMX relative position

High LMX relative position that is based on the equity principle is likely to have a positive effect on individual outcomes (Liden et al., 2006). Indeed, positive relationships with outcomes such as performance and OCB have been reported (e.g., Epitropaki et al., 2016; Henderson et al., 2008; Hu & Liden, 2013; Tse, Ashkanasy, & Dasborough, 2012), and negative relationships with actual turnover have been shown (Ferris, 1985; Graen, Liden, & Hoel, 1982). These last two studies tested the relationships longitudinally and found the association to range from weak to moderate. Moreover, high RLMX may even benefit team-level performance because LMX relative position rewards and enables the most productive and motivated members of the team (Chen et al., 2015; Scandura, 1999). Equity norms however are more in line with individual than team goals and are likely to engender competition rather than cooperation in teams (Deutsch, 1975; Hooper & Martin, 2008).

3.2 | Social comparison theory

Social comparison theory provides a good vantage point for understanding the consequences of LMX relative position more than LMX variability. The motivation to engage in social comparisons is ubiquitous and leads to either deliberative or unconscious comparisons with similar others on important aspects in one's life, including relationships (Buunk & Gibbons, 2007; Festinger, 1954; Lord & Maher, 1993). LMX relative position makes social comparisons particularly salient to team members for three reasons. First, team members are similar to each other because they share the same leader, posses similar qualifications, skills, and capabilities, and experience similar events on a daily basis (Hu & Liden, 2013). Second, given the absence of objective standards for evaluating relationship quality, others' relationships are used as a benchmark for comparison (Festinger, 1954; Rusbult, Verette, Whitney, Slovik, & Lipkus, 1991). Finally, because team members typically work closely together, they are likely to be frequently confronted with evidence of differential treatment by the leader (Thomas et al., 2013a). This comparative information is inevitably used by team members to assess their relative position with the leader compared to other salient individuals (e.g., especially close or similar coworkers) or more commonly the team average (i.e., the frog pond effect, Johns, 2006).

Although the role of social comparisons is acknowledged in organizational justice theory, social comparison theory goes much further in focusing on the motives for engaging in social comparison; the direction of comparison; and the affective, evaluative, and behavioral outcomes of comparison (Thomas et al., 2013a). For example, the assimilation-contrast model (Mussweiler, Rüter, & Epstude, 2004) differentiates between two basic motives that may influence the outcomes of LMX relative position—contrast effects (i.e., the desire to self-enhance and compete with others) and assimilation effects (i.e., the desire to affiliate, identify, and cooperate with others). It is often argued that because the workplace is inherently a more competitive than cooperative context, contrast effects are likely to be the prevalent motive (Greenberg, Ashton-James, & Ashkanasy, 2007). Based on this logic, the LMX comparison process should invoke contrast effects in which individuals, depending upon their relative position in the team, experience a downward comparison-feel-good-perform better effect or an upward comparison-feel bad-perform worse effect (Thomas et al., 2013a; for a review, see Buunk & Gibbons, 2007).

Only a handful of studies have employed direct measures of LMX relative position, which explicitly operationalize the social comparison, and these are all individual source. These measures are better able to assess the role of social comparison compared to indirect measures (such as RLMX). One such measure is LMXSC designed by Vidyarthi

et al. (2010) which directly asks team members for their perception of receiving better treatment by their leader vis-à-vis the other team members. A similar measure, named perceived LMX comparison (Martin et al., 2015), asks people to evaluate their own LMX quality as "below" or "above" the average in their team. Hence, it is evaluative rather than perceptual and encompasses both downward and upward comparison. Dealing with the outcomes of these direct measures, some interesting findings have emerged. Vidyarthi et al. (2010) found positive relationships between LMXSC and performance and OCB, while controlling for RLMX and LMX quality. Martin et al. (2015) found that perceived LMX comparison is a better predictor of work-related outcomes compared to RMLX and that the effects of perceived LMX comparison on job satisfaction, job-related well-being, and objective performance were positive and stronger for those low (vs. high) in LMX quality.

3.3 | Social identity theory

The basic tenet of social identity theory and social categorization theory (i.e., the social identity theory of the group) is that when individuals identify with a group, they experience a sense of oneness with that group and are cognizant of the characteristics, status and behaviors identified with group membership, and what demarcates their group from other groups (Ashforth & Mael, 1989; Hogg & Terry, 2000; Tajfel & Turner, 1986). Although social identity theory has been primarily concerned with intergroup dynamics (Hogg & Terry, 2000) and LMX theory has centered mainly on dyadic relations, LMX variation with its focus on team-level processes provides an important point of intersection (e.g., Hogg & Martin, 2003; Hogg et al., 2005). For example, LMX theorists have long recognized that differentiation processes can create LMX-based in-groups and out-groups in teams (e.g., Dansereau et al., 1975). Relatedly, the extension of social identity theory to leadership (e.g., Haslam, Reicher, & Platow, 2011; Hogg, 2001; Hogg & van Knippenberg, 2003) has focused on intragroup dynamics (e.g., the development of identity-based subgroups) and leadership in teams. (Sub)group membership imbues followers with a sense of identity—a social identity—and leaders shape and embody this social identity in teams (Thomas et al., 2013b).

Team identification is central to social identity theory, and researchers have used it to link social identity theory with social comparison theory (Tse et al., 2012). For example, Hu and Liden (2013) argue that under conditions of high team identification, assimilative effects are likely to dominate follower's responses to LMX relative position, whereas under conditions of low team identification, contrast effects are likely to prevail. The important role of social identification as a mechanism moderating the individual-level outcomes of LMX relative position has also been supported empirically. Tse et al. (2012) tested a moderated mediation model and found that the positive relationship between RLMX and job performance was mediated by social identification, which was higher when negative affectivity was low. Hu and Liden (2013) found that self-efficacy mediated the relationship between RLMX and job satisfaction (partially), task performance (partially), and OCB (fully). Further, the path from RLMX to self-efficacy was moderated by team identification.

Social identity theory and social categorization theory have also been adopted to explain team-level consequences of LMX variation (i.e., outcomes of the differentiation process from the perspective of the team). For example, Sui, Wang, Kirkman, and Li (2016) highlighted the necessity for researchers to consider not only linear main effects but also curvilinear relationships between LMX variation and performance outcomes, and their potential moderators. Operationalizing LMX variation as the within-team standard deviation of LMX, the authors reported an inverted U-shaped relationship between LMX variation and team performance, which was partially mediated by team coordination. Furthermore, the authors pointed out the moderating role of both team size and team power distance orientation, which have the potential to strengthen (or weaken) the disruptive effect of LMX variation on team processes and outcomes. In a similar vein, Li, Fu, Sun, and Yang (2016) reported a curvilinear relationship between LMX variation and team creativity. Specifically, an inverted U-shaped relationship was found which was moderated by team LMX quality (measured as LMX median) in that the curvilinear relationship was stronger when LMX median was lower. These findings suggest that there is an optimal point of LMX variation in a team that preserves team dynamics and benefits team performance.

3.4 | Summary and critique

The review of the literature above clearly shows the need to move from a simple dyadic understanding of leader–follower relationships (i.e., LMX quality) to understanding that these relationships occur in the context of multiple LMX relationships in the team. However, although the number of studies examining the effects of LMX differentiation is growing, there is considerable confusion and inconsistency in the findings (Kauppila, 2015). As illustrated above, the relationship between LMX differentiation and outcomes is not a simple one to describe. We attribute this, in part, to the alternative ways in which researchers operationalize the properties of the differentiation process and measure it. For example, the majority of measures are multiple source in nature (within-team variation for LMX variation and RLMX for LMX relative position). When these measures are employed, the potential conceptual problems noted in the earlier section should be considered. By contrast, few measures are employed that are better suited, in our view, to capture the theoretical concepts under investigation. For example, when examining social construction processes through utilizing justice, social comparisons, or identity perspectives, individual source measures that capture individual's subjective experiences may be more appropriate.

At its core, LMX theory is unable to account for all aspects of LMX differentiation. As such, additional theories are utilized in the literature to provide greater explanatory power. The three theories described are the most popular ways to explain the effects of LMX differentiation on outcomes. However, they differ with respect to their ability to address the different properties of LMX differentiation. Although organizational justice and social identity theories appear to be relevant for both LMX variation and LMX relative position, in contrast, social comparison theory is more relevant for understanding LMX relative position. Taken together, these theories suggest a number of explanatory mechanisms through which the process of LMX differentiation may be

harmful, or conversely beneficial, for teams and individuals, and the exploration of further moderators would help clarify under which conditions each path is more likely to operate.

4 | FUTURE RESEARCH DEVELOPMENTS

In this section, we propose three key directions for future research development in LMX differentiation: properties of LMX differentiation (especially LMX shape), methodological refinements in the measurement and analysis of LMX differentiation; the LMX differentiation process including the role of the broader context in determining the impact of LMX differentiation.

4.1 | Properties of LMX differentiation

The first area for development concerns more research focus on the shape of the LMX distribution. As mentioned earlier, while we identify three main properties of the LMX differentiation process, we noted that there has been virtually no research on LMX variation in relation to LMX shape (for an exception, see Li & Liao, 2014). While examining, the shape of team distributions has been shown to have importance in relation to other areas in organizational behavior research, such as climate perceptions (e.g., González-Romá & Hernández, 2014), work group diversity (e.g., Van Knippenberg & Schippers, 2007) and for judgments of trust (e.g., De Jong & Dirks, 2012), such an omission in LMX differentiation research is surprising.

The importance of LMX shape can be demonstrated with hypothetical examples of LMX distributions (see Figure 1). For presentation, we consider a team of nine members with relationship quality measured on a 5-point scale with 1 being *low quality* and 5 being *high quality*. As illustrated in Figure 1, there are a number of potential dispersion patterns including *uniform* (all team members have the same LMX quality, a to c), *bell-shape symmetrical* (normally distributed about a midpoint, d), *U-shape symmetrical* (inverted bell, e), *asymmetrical* (unequal number of team members either side of scale midpoint, f), *skewed* (proportionally more team members with extreme low or high LMX quality, g and h), *bimodal* (equal number of low and high quality team members, i) and many other patterns can be envisaged. The top three distributions (a to c) reflect a uniform pattern where all team members have the same relationship quality (except in each profile it is low, medium, or high LMX quality). Although the mean, median, and mode for each distribution are different, the standard deviation is the same. Therefore, although mathematically the three distributions have the same amount of LMX variation (in this case zero), the experience of relationship quality in each case is likely to be different. One could reasonably argue that when the uniform pattern is all high, then individual- and team-level outcomes will be higher than when the uniform pattern is medium or low. The second set of distributions concern different bell-shaped distributions (d to f) where the pattern is not uniform but where there is variation in LMX quality between team members. The first two of these distributions (d and e) are symmetrical distributions, and the other is asymmetrical (f). The symmetrical distributions (d and e) have the same mean and median, but the latter has greater variation (due to more extreme scores), and this may lead to conflict and reduced team performance. Although the amount of LMX variation is the same in distributions e and f, the more extreme asymmetrical distribution (f) consisting of two subgroups (low and high LMX quality) might adversely affect outcomes. The skewed distributions show patterns of negative (g) and positive (h) skews. Again, although the patterns are very different, they result in the same level of LMX variation. However, one might expect the direction of the skew would affect team outcomes—with distribution h leading to most positive outcomes due to the higher mean LMX quality. Finally, the bimodal distribution (i) shows a situation where there is equal number of low and high LMX team members (note that we reduced the team size to eight to achieve an equal balance). Here, the mean does not correspond to any team member and therefore would not be a good representation of the team average. Although the variation in LMX quality is low compared to other distributions (such as e and f), one might consider that the subgrouping into low and high LMX quality team members would be a source of conflict and lead to poor team processes and outcomes. Overall, these examples show that it is possible for two distribution patterns to be similar on some distribution properties (such as variation) but have very different distribution shapes that likely impact upon team members' experience of variation and therefore impact upon work outcomes.

The above analysis supports the view, described earlier, that the outcome pattern of the LMX differentiation process is shared by all team members and therefore emphasizes the perspective of the team. Such a perspective leads to measures of LMX variation (e.g., standard deviation) and LMX relative position (RLMX) that utilize LMX indices for all team members. However, an alternative perspective views the outcomes of the LMX differentiation process from the perspective of the follower. This perspective views LMX differentiation as a unique subjective experience for each team member. One cannot assume that the actual LMX shape within the team is the one construed by each team member. Instead, each team member construes their own LMX shape that might be very different to the actual one. Let us consider an example of the positive skewed distribution (h). In this distribution, team members with a high LMX quality (4 and 5) might feel their primary work needs are met by their manager and less concerned with the LMX quality of other team members and perceive a lower than actual LMX variation. Those team members with a low LMX quality (1 and 2) might feel that their primary needs are not met by their leader, feel envious and threatened by those with a high LMX quality, and consequently perceive a higher than actual LMX variation. Due to these reasons, this perspective suggests individual subjective assessments of LMX variation and LMX relative position is most appropriate.

It is important to note that of the previously reviewed theoretical perspectives to explain LMX differentiation, social identity theory is best placed to account for the outcomes of LMX variation and LMX shape at the team level. For example, in terms of the shape or structural configuration of LMX variation, social identity theory would anticipate that a bimodal distribution (i.e., two equally sized LMX-based subgroups of low vs. high LMX quality) would be particularly harmful because it is likely to engender more tension and mistrust between subgroups (i.e., “us” and “them”), and thus undermine team coordination and team performance (Li & Liao, 2014). Relatedly, Sui et al. (2016) in

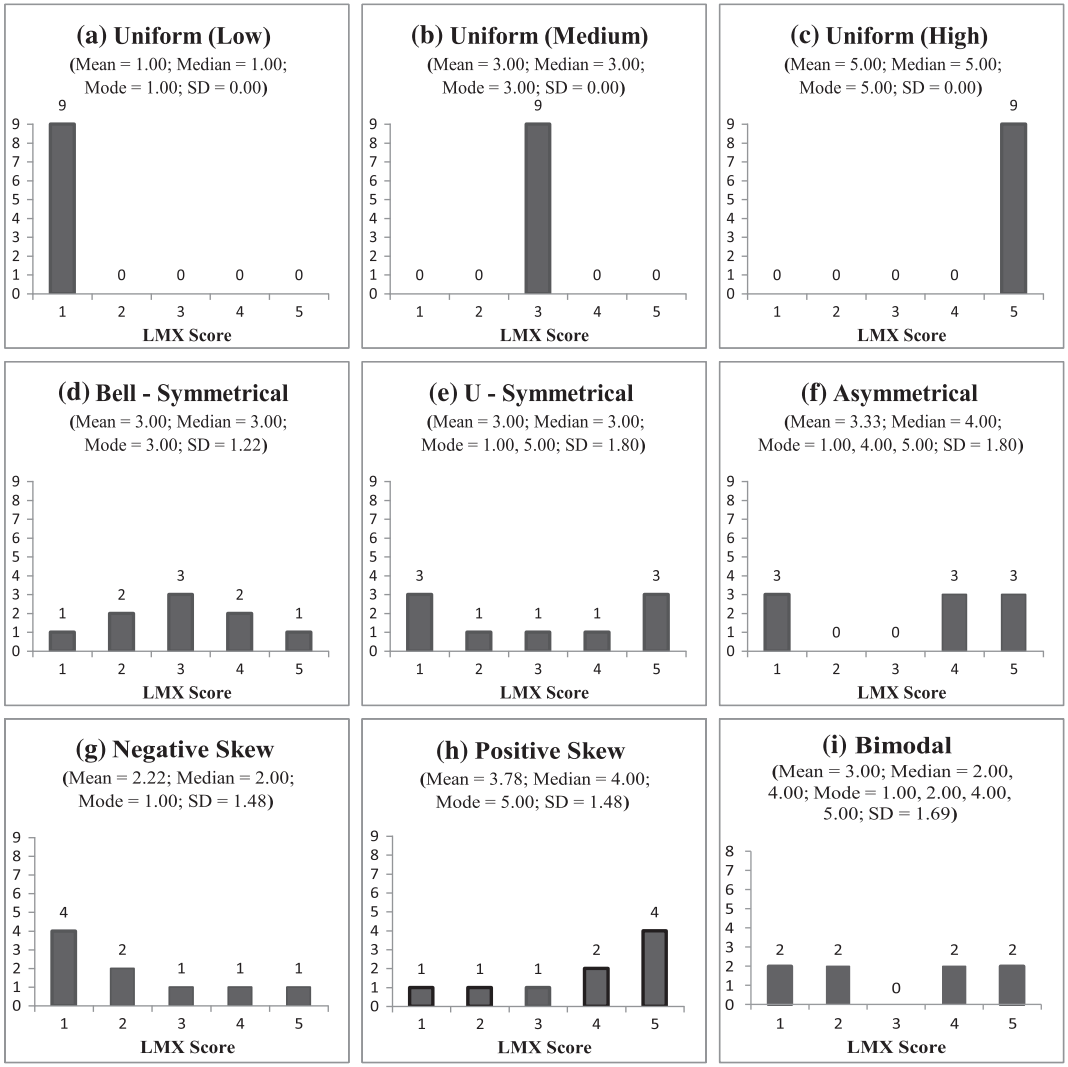

FIGURE 1 Types of distribution shapes of leader–member exchange (LMX) within teams

an extension of social identity theory to LMX differentiation posit that team performance is best served by an inverted U-shaped configuration of LMX variation (see Figure 1, d, bell-shape symmetrical), because moderate levels allow the leader to gain efficiency benefits from role differentiation while avoiding the creation of factional LMX-based subgroups. Notwithstanding these important initial insights regarding the structure of LMX differentiation, we believe that the literature on LMX differentiation would benefit from a more comprehensive analysis of the shape of LMX distributions within the work team.

Our final recommendation concerns the need to consider *all the properties of the LMX differentiation process*. Our review has identified three main properties of the pattern of LMX distribution (central tendency, variation, and relative position). However, our literature review shows that the vast majority of research tends to focus on only one of these properties and this, we believe, provides only a partial account of the impact of the differentiation process. More specifically, we propose that future research could greatly advance knowledge by looking at multiple properties within the same studies. For example, one might expect that the effects of LMX relative position will be affected by the amount of LMX variation. Followers with a high LMX relative position might experience enhanced positive benefits when LMX variation is also high as this would indicate a large difference between themselves and other team members.

4.2 | Methodological advances

We believe that the area would benefit greatly from the use of better methodological approaches and analysis of key concepts. We give an example relevant to each of the properties of LMX differentiation.

In terms of central tendency, we noted earlier that this is often used as a moderator variable in relation to the impact of the other two properties of LMX differentiation on outcomes. However, different measures of central tendency have been employed as the team mean (e.g., Tordera & González-Romá, 2013) or team median (e.g., Liden et al., 2006). As noted by Henderson et al. (2009), these measures have different meaning, and they recommend that the median is a better way to aggregate the data, as our example of different distributions in Figure 1 show that different measures of central tendency (mean, median, and mode) can have different interpretations for the same distribution. For this reason, we believe that researchers should pay closer attention to the shape of the distribution before determining which measure of central tendency best captures the "average" team member.

With respect to LMX variation, techniques such as social network analysis would be particularly useful (see Sparrowe & Emery, 2015). For example, if network tie strength is viewed as a proxy for LMX quality, then social network analysis (as described below) could provide a more detailed analysis of the structural configuration of LMX (both variation and shape) than can be achieved by current methods (such as standard deviation). Moreover, social network analysis permits the mapping of tie strength (relationships) for the full structural network of the work group (leader to member and member to member) and thus can more accurately map the full range of structural configurations (see Figure 1). For example, when LMX relationships are embedded within a clique or subgroup consisting of strong member–member ties (termed Simmelian ties), then this serves to strengthen each of the LMX relationships in the clique (Liden, Anand, & Vidyarthi, 2016).

With respect to LMX relative position, the most popular measure has been RLMX, which is the difference between individual LMX quality and team mean LMX quality. Difference scores are notoriously difficult to interpret, and recent advances in this area recommend the use of polynomial regression and surface plotting as a way to mitigate against many of these problems (see Edwards, 2001). Researchers are beginning to adopt this technique to depict the three-dimensional relationship between individual and team mean LMX quality with the outcomes (e.g., Hu & Liden, 2013; Vidyarthi et al., 2010; but Tse et al., 2012, argue that this technique might not be necessary). For example, by mapping LMX relative position three dimensionally allows researchers to simultaneously examine both the degree (i.e., magnitude) and the direction (i.e., low relative status vs. high relative status) of LMX relative position as well as the absolute levels of the components of LMX relative position (i.e., individual LMX quality and team mean LMX quality; see Edwards, 2002). Of importance, this technique enables researchers to develop more complex and interesting questions about LMX relative position, such as is the relationship between relative position and outcomes the same for team members whose relative position is below or above the team average?

An additional area for development concerns the foci of analysis. To date, the research has almost exclusively focussed on the follower's perspective of the differentiation process. One of the few studies to examine LMX differentiation from the leader's perspective is by Gooty and Yammarino (2016). They considered both the leader and follower point of view to calculate the mean dyadic LMX and the LMX dyadic dispersion. Interestingly, both were found to have a positive effect on multirated performance. Future research should look to capture both perspectives of LMX differentiation. Although previous studies of LMX have typically demonstrated moderate agreement between LMX quality as rated by the leader and the follower (see Sin, Nahrgang, & Morgeson, 2009), it would be interesting to determine if this occurs for perceptions of LMX differentiation. Moreover, polynomial regression techniques (as described above) could be used to test more nuanced questions concerning the magnitude and direction of congruence between leader and follower perceptions of LMX differentiation and its effect on performance. Relatedly, a recent study by Matta, Scott, Koopman, and Conlon (2015) found that congruent LMX relationships (across all levels of LMX quality) resulted in higher employee work engagement and OCB than incongruent LMX relationships. Indeed, even in the case of low quality LMX relationships, it was better to see eye to eye than for one party (either leader or follower) to discrepantly view the relationship as high quality. Although the focus of this study was on (in)congruence in LMX quality (not LMX differentiation), it would be interesting to examine whether this pattern of results extends to LMX differentiation (both LMX variation and LMX relative position). In addition, it would also be intriguing to investigate the moderators that enhance and diminish the level of agreement on LMX differentiation.

4.3 | The LMX differentiation process

Another area for development concerns new theoretical perspectives to explain key relationships. We believe that current theoretical models (mainly justice, social comparison, and social identity theories) are extremely useful but have failed to capture the complexity of the LMX differentiation process. In addition to these approaches, we propose three theoretical perspectives that we believe offer new theoretical insights into the LMX differentiation process (i.e., affective events theory) and the role of contextual factors in determining the consequences of LMX differentiation (i.e., work group diversity and social networks). Next, we discuss each of these theoretical perspectives in turn.

4.3.1 | Affective events theory

In our view, of the theories that have been used to guide LMX differentiation research, affective events theory (a within-person theory of workplace emotions; Weiss & Cropanzano, 1996) and its extension to LMX theory (Cropanzano, Dasborough, & Weiss, 2017) potentially provides the most explicit consideration of LMX differentiation to date. For example, although the basic principles of organizational justice, social comparison, and social identity theories are germane to understanding certain aspects of LMX differentiation, none of these theories mention LMX differentiation per se, and to date, there has been no comprehensive theoretical account of how these theories can be integrated with LMX differentiation. By contrast, Cropanzano et al.'s (2017) affective events model of LMX provides a theoretical framework that delineates the process by which the emotional impact of LMX differentiation affects the development of LMX quality over time and specifies the role played by LMX differentiation (both LMX variation and relative position) in this process. According to this theoretical perspective, changes in employee's LMX relative position over time are likely to occur because of routine changes in work team membership (e.g., voluntary turnover, promotions, hiring of new team members, team headcount reductions, and political factors), especially when particularly high or low status team members come or go. Such changes in LMX relative position are likely to be construed as important affective events that elicit moral emotions, which in turn lead to changes in LMX quality over time. Specifically, the deterioration (improvement) in LMX relative position is posited to lead to feelings of member anger, contempt, and disgust (gratitude) and subsequently diminished (enhanced) levels of LMX quality, particularly when changes in relative position are perceived as unjust and the level of LMX variation in the workgroup is high.

As such, in our view, affective events theory has the potential to contribute to the LMX differentiation literature in four important ways.

First, by framing LMX differentiation as an affective event, it posits an affectively driven process based on discrete moral emotions that is novel to the LMX differentiation (and LMX) literature. In so doing, it helps to address significant concerns about the scarcity of theoretically grounded mediational explanations in LMX theory (e.g., Martin et al., 2016), and in leadership theories more generally (e.g., Fischer, Dietz, & Antonakis, 2017; Van Knippenberg & Sitkin, 2013). Second, it extends the justice perspective of LMX differentiation by delineating an affectively driven process that is elicited by perceptions of unfair LMX differentiation. Third, by moving beyond performance-related outcomes and focusing on LMX relationship development, it posits a novel outcome of the LMX differentiation process. Finally, by framing LMX differentiation as a dynamic process that changes over time, it goes beyond prior theories that have adopted a more static perspective.

In viewing the process of LMX differentiation as a set of repeated affective events that lead to within-individual differences in LMX over time, it answers the call for leadership researchers to take the role of time more seriously (Langley, Smallman, Tsoukas, & Van de Ven, 2013). Moreover, it implies a reciprocal causal relationship between LMX quality and LMX differentiation processes: The initial development of LMX quality impacts LMX differentiation, and subsequent changes in LMX differentiation affect changes in LMX quality. Time-sensitive designs would be helpful in exploring these temporal processes (see Fischer et al., 2017, for a more detailed discussion of temporality and leadership) and would assist in measuring the actual process of differentiating how the relationships with different members change over time and what "events" may occur to influence such differentiation. Such "events" could include (in addition to changes in team membership, as described above) violations of trust, contract breaches as perceived by the leader, or delegation of unmet responsibilities.

The critical insight provided by LMX differentiation research is that LMX researchers need to view dyadic LMX relationships in the context of other LMX relationships within the work team. In a similar vein, we argue that LMX differentiation researchers need to view the LMX differentiation process in the broader context of the team, the organization, and its informal social structures. To this end, we next discuss two new theoretical perspectives that can help further our understanding of contextual influences on LMX differentiation: work group diversity (i.e., composition) and social networks.

4.3.2 | Work group diversity

The first theoretical perspective, work group diversity, typically refers to actual or perceived differences on any attribute between members of a team or group (Jackson, Joshi, & Erhardt, 2003). In practice, diversity researchers have focused primarily on surface-level attributes such as demographic (e.g., sex, ethnicity) and functional background (Van Knippenberg & Schippers, 2007). In principle, however, diversity could refer to an almost infinite number of attributes (Van Knippenberg, De Dreu, & Homan, 2004), including deeper-level dimensions of diversity such as LMX differentiation. Irrespective of the focal attribute, the predominant focus has been the impact of diversity on team performance (Van Knippenberg, Dawson, West, & Homan, 2011).

Given the parallels to LMX differentiation, there are at least two important insights that can be gleaned from the work group diversity literature. First, the focus on simple dispersion models of group composition (i.e., the degree to which a group differs on only one attribute) has been unable to adequately account for the effects of diversity (Van Knippenberg & Schippers, 2007). For example, a recent meta-analysis failed to reveal a main effect of single-attribute (or dimension) measures of diversity on team performance (e.g., Bell, Villado, Lukasik, Belau, & Briggs, 2011). Although this meta-analysis did not include LMX differentiation as an attribute of diversity, it may provide a salutary lesson for researchers that the effects of LMX variation on team performance will be better understood by considering it in conjunction with other dimensions of diversity (i.e., alignment models of group composition) rather than by itself.

The second potential insight concerns the critical role of diversity salience (and by extension the salience of LMX differentiation) in moderating the impact of diversity on team performance. The cognitive-elaboration model of work team diversity (an extension of self-categorization and social identity theories) posits that the salience of intragroup differences (i.e., social categorization) is a function of three factors: cognitive accessibility, normative fit, and comparative fit (see Van Knippenberg et al., 2004). In our view, each of these salience functions can be applied to LMX differentiation. *Cognitive accessibility* reflects the ease with which the categorization (i.e., LMX differentiation) comes to mind and is used by the perceiver. In the case of LMX differentiation, levels of accessibility are likely to depend on individual differences such as prior experiences of LMX differentiation (that may relate to one's current or previous leaders) and contextual cues that prime LMX differentiation (e.g., examples of overtly differential treatment by the leader). *Normative fit* refers to the degree to which the categorization (i.e., LMX differentiation) is subjectively meaningful to team members (i.e., consistent with their beliefs and expectations).

The final salience function, *comparative fit*, captures the extent to which the categorization (i.e., LMX differentiation) results in subgroups characterized by high within-group similarity and high between-group differences. Lau and Murnighan (1998) faultline theory nicely captures this notion of comparative fit. High comparative fit occurs when multiple diversity dimensions converge or covary within a subgroup (i.e., a diversity faultline), whereas low comparative fit occurs when the combination of diversity dimensions are unrelated (i.e., they cross-cut each other; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987). In a direct test of faultline theory, Homan et al. (2008) showed that faultline teams performed more poorly than cross-categorized teams. Extending this logic to LMX differentiation, LMX differentiation processes are more likely to create a faultline, and thus undermine group processes and performance, to the extent that LMX differentiation is correlated (vs. unrelated) with other dimensions of diversity (e.g., gender and dyadic tenure). Indeed, there is some mixed evidence that LMX quality correlates with leader–member similarity on a range of demographic and personal factors (Martin et al., 2010), which suggests that at least in certain contexts, LMX differentiation can activate faultlines

in which members perceive and behave as distinct subgroups (Jehn & Bezrukova, 2010).

4.3.3 | Social networks

The second theoretical perspective that can provide insights regarding the potential impact of contextual factors on LMX differentiation is the social network approach. Whereas LMX differentiation focuses on the importance of the vertical leader–member dyad and the differentiation of vertical dyads within the work team, the social network approach focuses on the structure and quality of informal relationships beyond the vertical dyad (e.g., peer to peer; leader to leader, as well as others beyond the boundaries of the formal work group; Liden et al., 1997). The social network perspective does not underplay the importance of vertical LMX dyads but instead views its importance as best understood in its actual context of formal and informal relationships (Sparrowe & Liden, 1997). As such, in our view, the social networks approach is a complementary perspective that provides at least two potential contributions to the LMX differentiation literature.

First, from the vantage point of the social network perspective, LMX variation can be viewed as a hub-and-spoke network with ties (i.e., relationships) of differing strength that disregards ties between members (Sparrowe, 2014). For example, it is plausible that good peer relationships (or strong ties with networks outside the work team) may buffer the negative effect of LMX relative position on individual performance (Sparrowe & Liden, 1997). Although, as described above, recent advances in LMX differentiation research have begun to model different structural configurations of LMX variation, and such configurations may well have implications for the structure of follower relationships (e.g., Li & Liao, 2014), the social network approach is better suited for directly mapping the broader social structure of the work team (i.e., both LMX variation and member ties; Sparrowe & Emery, 2015).

The second contribution of the social network perspective is the recent conceptualization of cognitive social networks. Cognitive social networks constitute mental representations of individual social networks characterized by actors and ties. Sparrowe and Emery (2015) suggest that when team members mentally represent their leader-member relationships within the work team a cognitive social network is activated about their LMX relative position in the team as well as the structure of LMX variation (which may be different from the actual social network). This raises the interesting question concerning the accuracy of activated cognitive networks and their susceptibility to systematic biases (Brands, 2013). In addition, interesting structural distinctions can be drawn between potential, activated, and mobilized networks. With reference to cognitive networks of the work group, the *potential network* constitutes the full set of team members, the *activated network* constitutes the subset of the potential network that is mentally accessible in a given situation, and the *mobilized network* includes the subset of the activated network that members actually leverage resources from (Smith, Menon, & Thompson, 2012). These recent developments constitute new and interesting avenues for research that integrates social networks and LMX differentiation.

Taken together, the work group diversity and the social networks perspectives highlight the importance of both contextual factors and the emerging cognitive approach to LMX differentiation. LMX differentiation should not be viewed in isolation from the broader context and structures of the work team and the organization. Moreover, cognitive perceptions of LMX differentiation (in terms of salience and chronic accessibility) may be more influential in determining the impact of LMX differentiation than actual levels of LMX differentiation per se (a conclusion that also resonates with our earlier discussion of the different perspectives of LMX differentiation).

5 | SUMMARY

In this section, we summarize some of the main contributions to the literature that have emerged from this review.

- LMX differentiation is the process by which leaders develop different quality relationships (LMX) with each member of their work team. The majority of managers have different quality relationships with different members of their team.
- LMX differentiation is a necessary extension of LMX theory in explaining how LMX quality explains important work outcomes. Research into LMX differentiation supports the move of theoretical analysis from the dyadic to the team level.
- LMX differentiation results in specific patterns of LMX quality within the team, and this can be assessed through three main properties (central tendency, variation, and relative position). It is necessary to consider all properties to fully assess the effects of LMX differentiation.
- Virtually no research has examined the shape of the LMX distribution within the team. In many cases, teams can have similar scores on some LMX differentiation properties (such as LMX variation) but have very different shapes to their LMX distribution.
- There are many different measurement techniques to assess LMX differentiation properties. These measures can be categorized according to two dimensions (property: LMX variation vs. LMX relative position and data source: individual source vs. multisource).
- The measures make different assumptions based on the perspective taken (part of team vs. from the follower) and predict outcomes at different levels. There are strengths and weaknesses of different types of measures.
- Overall, the relation between LMX variation and LMX relative position and work outcomes is negative and positive respectively, but there is inconsistency in the findings, and numerous moderator and mediator factors condition and explain these effects.
- Some of the inconsistencies in findings are likely due to the different types of measures that are designed to capture similar properties.
- Justice, social comparison, and social identity theories have been the most common theoretical models to explain the effects of LMX differentiation. These theories vary in their ability to explain the effects of LMX variation and LMX relative standing.
- Potential theoretical developments that could offer new theoretical insights include affective events theory, work group diversity,

and social networks. To date, the area is lacking an overarching theoretical framework for understanding all the outcomes of the LMX differentiation process

In conclusion, the proliferation of studies on LMX differentiation and the articulated directions we envision for future research clearly attest to the construct's promising role for understanding leadership dynamics and outcomes in the workplace.

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